

Bellwork: 5/29/13

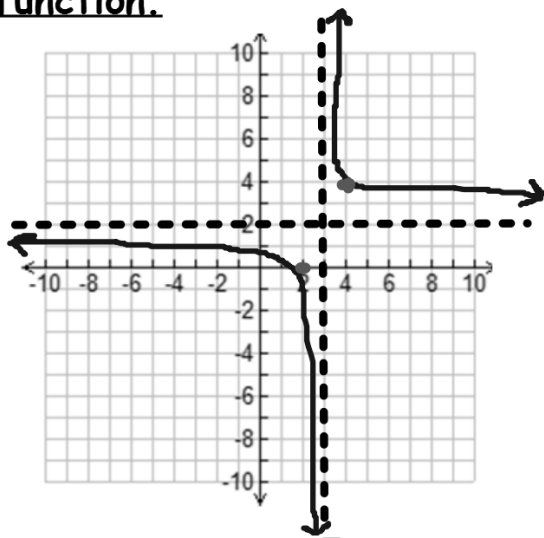
**Write the polynomial
given the zeroes:**

$$x = 0, 1, -3$$

**Given that one zero of
 $f(x) = x^3 + 9x^2 + 23x + 15$
is -5 . What are the other TWO
zeroes.**

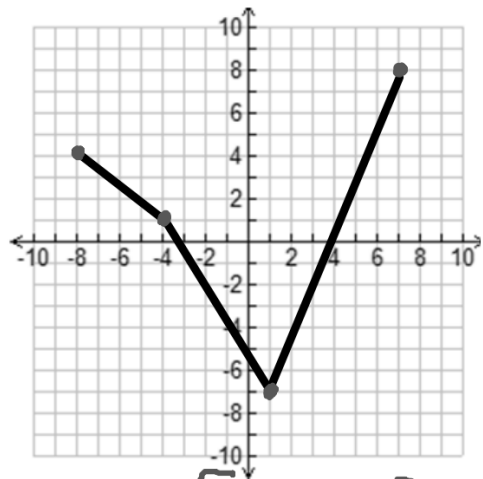
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Write the equation of the function.



$$y = \frac{2}{(x-3)^2} + 2$$

Find the domain & range



$$D: [-8, 7]$$

$$R: [-7, 8]$$

7.5 - Using Logarithms to solve exponential equations

Objective: Use logarithms to solve exponential equations

Using logarithms to solve exponential equations:

- Steps:
- 1) isolate the exponential term on one side of the equation
 - 2) write the word log in front of each term on each side of the equation
 - 3) use the exponent properties to rewrite the expression
 - 4) solve for x

Example 1: $5^x = 75$

Example 2: $7^{x+1} = 150$

Try These:

1) $6^x = 1296$

2) $4^{x+1} = 100$

3) $2^{x-3} = 25$

4) $5^{3x-1} = 49$

$$\textcircled{1} \quad 8^{2x} = 32$$

$$\downarrow \log 8^{2x} = \log 32$$

$$\frac{2x \cancel{\log 8}}{\cancel{\log 8}} = \frac{\log 32}{\log 8}$$

$$\frac{2x}{2} = \frac{1.67}{2}$$

$$\boxed{x = .84}$$

$$\textcircled{5} \quad 36^{-2x+1} = 216$$

$$\downarrow \log 36^{(-2x+1)} = \log 216$$

$$\frac{(-2x+1) \cancel{\log 36}}{\cancel{\log 36}} = \frac{\log 216}{\log 36}$$

$$\frac{-2x+1}{1} = \frac{1.5}{1}$$

$$\frac{-2x}{-2} = \frac{.5}{2}$$

$$\boxed{x = -.25}$$

Homework: 5/30/13

practice 7.5 - #1 - #21